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Article *in* Criminal Behaviour and Mental Health · September 2016

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Criminal Behaviour and Mental Health
(2016)
Published online in Wiley Online Library
(wileyonlinelibrary.com) DOI: 10.1002/cbm.2019

Moral disengagement and callous–unemotional traits: A longitudinal study of Italian adolescents with a disruptive behaviour disorder

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ABSTRACT

Background *Callous–unemotional traits have been proposed as risk factors for a poorer prognosis in young people with disruptive behaviour disorders. Identification of factors that may cause or maintain elevated levels of such traits could help in developing targeted therapeutic interventions. Some previous studies have investigated the role of moral cognitive mechanisms, such as moral disengagement, but these previous studies focused primarily on normal or 'at-risk' samples.*

Aim *We aimed to evaluate associations and possible interactions between moral disengagement as a cognitive dimension and callous–unemotional traits as an affective dimension in adolescents with disruptive behaviour disorders.*

Method *We recruited 55 adolescents with a disruptive behaviour disorder from a community care hospital in Pisa. They were evaluated at baseline and after one year with measures that included a moral disengagement scale, the Antisocial Process Screening Device, to assess callous traits, and the Youth Self-Report, to explore externalising behaviour problems.*

Results *Structural equation modelling showed that higher initial moral disengagement scores were associated with later higher levels of callous–unemotional traits in adolescents and vice versa, even after, respectively, controlling for previous levels of callous traits and moral disengagement.*

Conclusion *As impairments in either cognitive or affective traits may predispose to problematic development of the other, our findings would suggest that screening at*

the earliest opportunity possible for both moral disengagement and callous–unemotional traits among children with disruptive behaviour disorders could help to map natural outcome pathways and thus tailor more accurate interventions for prevention of antisocial or criminal behaviour.

Disruptive behaviour disorders (DBDs), including oppositional defiant disorder (ODD) and conduct disorder (CD), are among the most commonly cited reasons for referring young people to mental health clinics in many countries (Steiner et al., 2007). Adolescents with such conditions are at risk of experiencing a variety of problems including peer rejection, school failure, substance abuse and criminality (Burke et al., 2002; Odgers et al., 2008; Renda et al., 2011; Savolainen et al., 2014). There is a long history of research on the causes of DBDs, which consistently shows substantial variability among children and adolescents with serious conduct problems regarding the types of problems manifested, the level of impairment associated with their behaviour and the risk of poor longer term outcomes (Frick and Viding, 2009; Masi et al., 2013).

The role of a callous–unemotional personality dimension has been emphasised in the DSM-V revision of diagnostic criteria for DBDs, to help identify children and adolescents at greater risk of poor outcomes (American Psychiatric Association, 2013). Adolescents with a diagnosis of at least one of the DBDs and elevated callous–unemotional traits are characterised by a lack of empathy and guilt, constricted affect, deceitfulness and a diminished sensitivity to punishment; these characteristics might also indicate more severe forms of conduct problems, or poor emotional regulation, and appear to be particularly stable across adolescence (Frick et al., 2005; Lynam et al., 2009; Masi et al., 2015). It has also been argued that such traits could predict violence and criminal recidivism (for a review see Frick et al., 2014; Fox et al., 2015).

Although there have been many investigations into the effectiveness of intervention programmes for DBDs in general (Eyberg et al., 2008), less is known about the treatment of children who also have elevated levels of callous–unemotional traits (Hawes et al., 2014). Longitudinal studies could contribute substantially to understanding how such traits are related to an increased risk of antisocial outcomes; moreover, these findings might be useful in designing tailored interventions for adolescents. Previous studies have investigated moral cognitive processes related to high levels of callous–unemotional traits in adolescents, with findings suggesting that young people so affected also have a unique social perspective that is not common to all aggressive youth, such as viewing aggression as a means to dominate others and/or thinking about minimising their potential for aggression to cause suffering in others.

DOI: 10.1002/cbm

These previous studies, however, have focused primarily on healthy samples or at-risk samples (Pardini et al., 2003; Schultz and Shaw, 2003; Blair, 2007; Pardini and Byrd, 2011; Shulman et al., 2011). In contrast, we investigated the moral cognitive processes associated with callous–unemotional traits in a clinical sample.

Bandura et al. (1996) developed a theory of moral disengagement to explain how people justify their actions and, consequently, commit immoral behaviours. This is a cognitive process, with the effect of avoiding internal sanctions by justifying behaviours that violate moral standards. Bandura describes it as a type of rationalisation that leads the individual to feel less guilty about his or her antisocial behaviours.

The predictive power of moral disengagement for deviant or criminal outcomes and its association with a variety of antisocial behaviours during adolescence have been supported by empirical evidence from community and at-risk samples. Such studies suggest that moral disengagement may lead to escalation of disruptive behaviours during adolescence and/or to their continuation into adulthood (Hyde et al., 2010; Mulder et al., 2011; Shulman et al., 2011; Fontaine et al., 2012; Paciello et al., 2015). From a clinical perspective, adolescents' moral disengagement may reinforce emerging callous–unemotional symptoms. To our knowledge, however, no previous studies have explicitly investigated moral disengagement as a possible precursor to or reinforce or mediator of callous–unemotional traits in adolescents with a disruptive behaviour diagnosis.

Our main aim, therefore, was to evaluate reciprocal longitudinal relationships between moral disengagement and callous–unemotional traits. Our hypothesis was that these two risk factors for violence and/or offending would reinforce each other in a clinical sample of adolescents with DBD. In particular, we hypothesised that (Figure 1): (1) moral disengagement at baseline will influence callous–unemotional traits one year later, above and beyond its stability; (2) callous–unemotional traits at baseline will influence moral disengagement one year later, above and beyond its stability; and (3) both moral

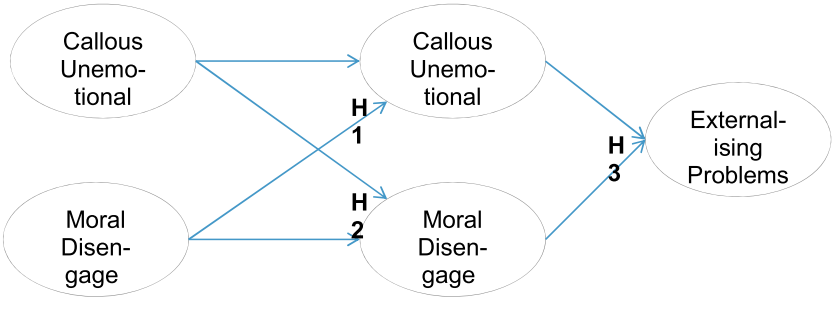

Figure 1: Conceptual model

DOI: 10.1002/cbm

disengagement and callous–unemotional traits will influence adolescents externalising behavioural problems.

Method

This study received approval from the institutional review board, and all participants and their parents provided written informed consent.

Participants and procedures

The sample was of adolescents referred to a community care hospital in Pisa, Italy. The catchment area of this community hospital is part of the Tuscany region (consisting of both urban and rural settings), with two million citizens. Trained child psychiatrists separately administered a diagnostic clinical interview, the Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime Version (K-SADS-PL) (Kaufman et al., 1997), to parents and their children. Cognitive abilities were assessed using the Wechsler Intelligence Scales for Children – Third Edition (WISC-III) (Wechsler, 1991). Inclusion criteria as follows: (1) a DSM-IV-TR diagnosis of ODD or CD according to K-SADS-PL and DSM-IV criteria; (2) a child-onset diagnosis of a DBD; (3) no on-going treatment; and (4) a full scale IQ of at least 85. During the first diagnostic evaluation and one year after it, the adolescents were also assessed using a set of scales exploring different types of behaviours (see measures, below).

Measures

The clinical sample received the following assessment at both time points:

The moral disengagement scale (Bandura et al., 1996; Pelton, 2004), which assesses proneness to moral disengagement through different forms of conduct in diverse contexts and interpersonal relationships. For each of the 32 items, adolescents rated their degree of acceptance of moral exoneration for such conduct on a 5-point Likert-type scale (from 1 = *strongly disagree* to 5 = *strongly agree)*. Sample items include: 'it is okay to beat someone who talks badly about your family', 'if people are careless about where they leave their things, it is their own fault if things get stolen' and 'it is okay to lie to keep your friends out of trouble.' This scale has been used and validated in several studies that have confirmed its predictive power for aggression, violence and crime during adolescence (Paciello et al., 2008; Hyde et al., 2010; Shulman et al., 2011; Fontaine et al., 2012). The Cronbach's reliability coefficient for our sample was 0.91.

DOI: 10.1002/cbm

The Youth Self-Report (YSR; Achenbach and Rescorla, 2001) is a 112-item questionnaire that uses a 3-point scale (from 2 = *sometimes true* to 0 = *never true*), different syndrome scales and a total problem score, and two summary scores: internalising problems and externalising problems. The YSR is a well-known instrument in the clinical and developmental literature, and several studies have used it to evaluate aggressive and disruptive behaviour in community as well as clinical adolescent samples (Tackett et al., 2003). The externalising domain used in our study includes aggressive and rule-breaking behavioural problems. The Cronbach's reliability coefficient for this domain was 0.75 for the sample.

The callous–unemotional scale of the *Antisocial Process Screening Device – parent report* (APSD-PR) (Frick and Hare, 2001) is a 20-item behaviour rating scale with each item scored 0 (not at all true), 1 (sometimes true) or 2 (definitely true) by parents. A previous factor analysis revealed three APSD-PR dimensions: a 7-item narcissism dimension, a 5-item impulsivity dimension and a 6-item callous–unemotional dimension, which showed a good fit in both community and clinic-referred samples of children (Frick et al., 2000). The APSD-PR has been used and validated in several clinical studies that have also confirmed the predictive power of callous–unemotional traits for aggression, violence and crime during adolescence (e.g. Muratori et al., 2016a). In our sample, the mean Cronbach's α for each assessment point was 0.77.

Data analysis

As a preliminary step, descriptive statistics were performed to check variable distribution, and *t*-test analyses were used to test for differences between the oppositional defiant and CD groups, and between males and females on study variables; variables were normally distributed, and no significant differences were found in clinical and socio-demographic variables. Correlation analyses were conducted to examine the concurrent and longitudinal relationship between moral disengagement and callous–unemotional traits with externalising behavioural problems at T1 and T2. Furthermore, to test the conceptual model shown in Figure 1, a latent variable framework was used. Moral disengagement and callous–unemotional traits as well as externalising problems were defined as latent variables, to account for measurement error. Specifically, because of the large number of items in the measurement instruments in relation to the number of participants, all other variables were posited as a single-indicator latent variable, following Bollen's recommendation (1989). To account for measurement error in these cases and to obtain more precise estimates of structural parameters, the error variance for each indicator was fixed at one minus the sample reliability estimate of the variable, multiplied by its sample variance. Mplus 7 was used to test this model. In accordance with a multifaceted model fit assessment, several

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goodness-of-fit indices and criteria were taken into consideration: (1) the chi-square significance (with a non-significant chi-square indicating perfect fit of the model); (2) the comparative fit index (CFI), with values≥0.90 indicating a good fit; (3) the root mean square error of approximation (RMSEA), with values≤0.08 indicating a good fit, including the non-statistical significance of its associated 90% confidence interval (CI) (Hu and Bentler, 1999); and (4) the standardised root mean squared residual (SRMR; Hu and Bentler, 1999), with values≤0.08 indicating an acceptable model.

Results

Seventy adolescents met the inclusion criteria; of these, 55 also completed the second evaluation. Those participants who dropped out were not included in the analyses. The 55 adolescents (13–16 years old) were 50 boys and 5 girls, with a mean age of 14.36 (SD = 1.31) years; 30 (66%) were diagnosed with ODD and 25 (44%) with CD. Eighteen (29%) of the families were of low socio-economic status, as assessed by the Hollingshead and Redlich scale (1958); the remainder 37 (71%) were from a middle socio-economic status (SES).

Table 1 shows the concurrent and longitudinal correlations between moral disengagement, callous–unemotional traits and externalising problems. Figure 2 shows the findings from the structural equation modelling. The model showed a good fit with the data (chi-square (3) = 2.315, $p = 0.51$; CFI = 1.0; Tucker Lewis Index = 1.07, RMSEA = 0.000 (CI = 0.000–0.22), $p = 0.55$; and SRMR = 0.033). As shown, the results of this model confirmed the longitudinal reciprocal relationship between moral disengagement and callous–unemotional traits and its impact on externalising problems at T2, explaining 39% of the variance. The higher the callous–unemotional traits at baseline, the more adolescents with

Table 1: Descriptive and longitudinal correlations among variables

		Mean	SD	1	2	3	4
1	Callous–unemotional traits T1	5.7	1.9	—			
2	Callous–unemotional traits T2	6.2	2.3	0.21	—		
3	Moral disengagement T1	2.4	0.6	−0.09	0.36**	—	
4	Moral disengagement T2	2.5	0.6	0.23	0.25	0.36**	—
5	Externalising problems T2	63.4	7.0	0.32*	0.24	0.28	0.55***

Note: *T*1 = time 1; *T*2 = time 2.
***Significant at $p < 0.001$.
**Significant at $p < 0.01$.
*Significant at $p < 0.05$.

DOI: 10.1002/cbm

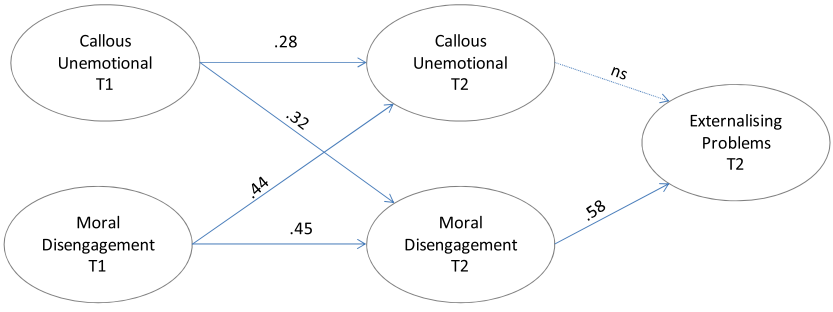

Figure 2: Model results

DBDs tended to be morally disengaged a year later, and *vice versa*. In addition, the more moral disengagement shown by adolescents with DBDs, the more they showed aggressive and rule-breaking behavioural problems.

Discussion

Investigation of possible moral cognitive dimensions related to higher levels of callous–unemotional traits in adolescents with DBDs could facilitate the identification of/or limit a criminal career. Our main finding was that evidence of moral disengagement at around the age of 14 years predicted higher levels of callous–unemotional traits one year later, even after controlling for potential instability of these traits. We also found, however, that callous–unemotional traits measured at about age 14 years predicted higher levels of moral disengagement a year later, after controlling for moral disengagement stability. The influence of moral disengagement on callous–unemotional traits was greater than that of the reverse relationship. Moreover, after controlling for stability of both variables, only baseline moral disengagement was associated with aggressive and rule-breaking behavioural problems at time 2, a year later. This makes sense because moral disengagement is a cognitive process used to avoid internal sanctions by justifying behaviours that violate moral standards, leading to a general tolerance for moral violations, which could, in turn, promote low interest in others with minimal empathy and thus callousness.

Our findings are similar to those of previous studies in which higher levels of moral disengagement were associated with severe forms of antisocial behaviours among adolescents (Bandura et al., 2001; Gini, 2006; Paciello et al., 2008; Shulman et al., 2011). Furthermore, a previous longitudinal study (Shulman et al., 2011) also linked moral disengagement and callous–unemotional traits, showing that higher levels of the latter at baseline promoted higher levels of later moral disengagement and antisocial behaviours. Hyde et al. (2010) have suggested that callous–emotional traits may simply form a component of moral

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disengagement, but our findings suggest that one or the other does come first, even though the other then commonly follows. Our findings support a longitudinal reciprocal relationship between moral disengagement and callous–unemotional traits, the higher the callous–unemotional traits at baseline, the more adolescents tended to be morally disengaged a year later, and *vice versa*. Moral disengagement as a cognitive process and callous–unemotional traits underpinning an affective one should represent two independent dimensions underpinning actions, so the power of each to influence the development of the other is interesting and important because it offers two routes to intervention, perhaps regardless of the primary problem. If a subgroup of people with antisocial behaviour can be more precisely defined in this way, more tailored interventions become possible (Dadds et al., 2012; Muratori et al., 2015).

Although there are several effective treatments for DBDs (Eyberg et al., 2008), children and adolescents who have such a diagnosis together with high levels of callous–unemotional traits may benefit from individualised interventions (Dadds et al., 2012). Miller and colleagues (2014) suggested that patients with elevated levels of callous–unemotional traits are particularly resistant to current behavioural interventions, and it is possible that differences in sensitivity to punishment and reward may undergird this resistance. If moral disengagement does affect the level of callous–unemotional traits, likelihood of success with interventions for DBDs could be improved by taking account of the level of moral disengagement. Our findings support the idea that such interventions should include not only strategies to improve self-control and problem-solving skills (Arsenio et al., 2009; Lochman et al., 2012; Dodge et al., 2013) but also strategies to improve the individual's moral engagement. Our previous study showed that self-transcendence values may inhibit moral disengagement, promote prosocial behaviours and prevent harmful behaviours (Paciello et al., 2015) so this would provide one strategy. How can we promote self-transcendence? Previous studies have emphasised the role of perspective taking (Van der Graaff et al., 2014). 'Coping power', a prevention model for at-risk children that was recently adapted to treat adolescents with a DBD (Muratori et al., 2016b), includes three sessions on perspective taking, so it may be that this would provide an ideal option for future studies. An alternative or supplementary approach would be to train parents to recognise and monitor the processes leading to impaired moral emotional development at as early a stage as possible.

Our findings should be considered in light of several limitations, the first of which is our small sample size. Replication of our findings in other clinical settings and with larger samples is necessary. Second, our assessments of moral disengagement and behaviour problems were based on self-report, whereas the callous–unemotional traits were assessed by parental report; future studies could add observer reports or moral engagement and behaviour and self-report of callous–emotional traits. Studies of interventions specifically designed for each aspect of this set of difficulties could add further understanding as well as offering

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hope of change to the affected individuals. Studies using these approaches to prevent emergence of antisocial behaviour, moral disengagement and/or callous–unemotional traits would also be valuable in themselves and to support explanatory mechanisms.

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